

The opinion in support of the decision being entered today  
is *not* binding precedent of the Board.

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

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*Ex parte* DAVID W. CANNELL, HITENDRA MATHUR,  
and NGHI VAN NGUYEN

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Appeal 2006-3047  
Application 09/820,934  
Technology Center 1600

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DECIDED: August 20, 2007

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Before TONI R. SCHEINER, DEMETRA J. MILLS, and NANCY J. LINCK,  
*Administrative Patent Judges.*

SCHEINER, *Administrative Patent Judge.*

**DECISION ON APPEAL**

Appellants appeal under 35 U.S.C. § 134 from a final rejection of claims 1-9, 13-19, 33-42, and 56-59.<sup>1</sup> We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

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<sup>1</sup> The rejection of claims 29-32 and 43-55 under 35 U.S.C. § 103(a) has been withdrawn, and the claims are merely objected to (Answer 2). The rejection of claims 1-9, 13-19, and 29-59 on the grounds of obviousness-type double patenting has also been withdrawn (*id.*).

### STATEMENT OF THE CASE

“[T]he present invention . . . provides a composition for durable conditioning of at least one keratinous fiber” (Spec. 4: 15-16).

Claims 1-9, 13-19, 33-42, and 56-59 stand rejected under 35 U.S.C. § 103(a)<sup>2</sup> as unpatentable over Niemiec<sup>3</sup> and Bertho.<sup>4</sup>

Appellants have not argued the rejected claims separately. Therefore, we will focus on claim 1 as representative of the claimed subject matter, and claims 2-9, 13-19, 33-42, and 56-59 will stand or fall with claim 1, as provided for in 37 C.F.R. § 41.37(c)(1)(vii).

Claim 1 reads as follows:

1. A composition for durable conditioning of at least one keratinous fiber comprising:
  - (a) at least one compound comprising at least two quaternary ammonium groups; and
  - (b) at least one sugar chosen from C3 to C5 monosaccharides substituted with at least one C1 to C22 carbon chain,wherein said at least one compound and at least one sugar are present in an amount effective to durably condition said at least one keratinous fiber.

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<sup>2</sup> The inclusion of claims 29-32 under this ground of rejection on page 3 of the Answer appears to be a typographical error (*see e.g.*, Answer 2, and the Notice of Panel Decision mailed August 30, 2005, both of which indicate that claims 29-32 would be allowable if rewritten in independent form).

<sup>3</sup> U.S. Patent 6,495,498 B2 to Niemiec et al., issued December 17, 2002.

<sup>4</sup> U.S. Patent 5,688,930 to Bertho et al., issued November 18, 1997.

### THE ISSUE ON APPEAL

The sole issue raised by this appeal is whether it would have been obvious for one of ordinary skill in the art to have formed a composition combining at least one compound comprising at least two quaternary ammonium groups (e.g., the polyquaternium-10 taught by Niemiec) and at least one sugar chosen from C3 to C5 monosaccharides substituted with at least one C1 to C22 carbon chain (e.g., the alkyl pentoside surfactants taught by Bertho).

### FINDINGS OF FACT

#### *Niemiec*

1. Niemiec describes “compositions that . . . effectively cleanse the hair [and] also impart superior wet stage and dry stage conditioning properties to hair in a single application” (Niemiec, col. 1, ll. 8-11).
2. Niemiec’s compositions comprise “a) at least one water soluble silicone agent; b) at least one cationic conditioning agent; and c) at least one detergent” (*id.* at col. 2, ll. 29-31).
3. Niemiec’s component b) “is a cationic conditioning agent such as a cationic cellulose derivative; a cationic guar derivative; a homopolymer or copolymer of [various] cationic monomer[s]” (Niemiec, col. 5, ll. 37-40), and “[a] suitable cationic cellulose derivative is the polymeric quaternary ammonium salt . . . known as Polyquaternium-10, commercially available as . . . ‘Polymer JR-400’” (*id.* at col. 6, ll. 2-7).
4. Polyquaternium-10 (also known as Polymer JR-400) is disclosed in the instant Specification as an example of “the at least one compound

11. There is no dispute that an alkyl pentoside is an example of the “sugar chosen from C3 to C5 monosaccharides substituted with at least one C1 to C22 carbon chain” required by claim 1.

#### DISCUSSION

The Examiner contends that “it would have been obvious for one of an ordinary skill in the art at the time of the instant invention to add [the] alkyl pentoside mixture of Bertho in the hair composition containing the Polyquaternium-10 hair conditioner . . . of Niemiec” (Answer 4) because Niemiec is “directed to a hair shampoo and conditioning composition containing detergent surfactants as well as conditioners” (*id.*), and Bertho teaches that alkyl pentosides are economically advantageous and have “the ability to act as [ ] surfactant[s], [to] enhance foaming, [and have] emulsifying and detergent power . . . which is also desired by Niemiec” (Answer 4).

Appellants argue essentially that there is “no reason, suggestion, or motivation in the prior art to lead one of ordinary skill in the art to combine the teachings of the references in the manner proposed” (Br. 15). In particular, Appellants argue “[t]o select Polyquaternium-10 as the cationic conditioning agent, . . . one would not only have to disregard those cationic conditioning agents Niemiec teaches as most preferred, but would have to select a cationic cellulose derivative from among the other classes of cationic conditioning agents disclosed. Yet no reasons are given as to why the ordinary artisan would have been motivated to select this one particular cationic conditioning agent from among the many possible, including more preferred options” (*id.* at 16). Appellants argue “although Niemiec teaches

the inclusion of a detergent, i.e., a surfactant, in Niemiec's cleansing composition, Niemiec's list of suitable detergents . . . is extensive . . . [and] substantial picking and choosing from among numerous possible surfactants would still be required in order to arrive at an alkyl glycoside" (*id.* at 17-18), which, even so, "is a C<sub>6</sub> monosaccharide . . . outside the scope of the claims" (*id.* at 18). Appellants contend that the Examiner's "position disregards the fact that there is no motivation to select the alkyl glucoside . . . plus the independent selection of Polyquaternium-10" (*id.*) from Niemiec, much less "to substitute the [alkyl pentoside] compound of Bertho in [Niemiec's] composition" (*id.* at 19).

"Section 103 forbids issuance of a patent when 'the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.'" *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1734, 82 USPQ2d 1385, 1391 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) the level of ordinary skill in the art; (3) the differences between the claimed invention and the prior art; and (4) secondary considerations of nonobviousness, if any. *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966).

The Supreme Court has recently emphasized that "[t]he obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation, or by overemphasis on the importance of published articles and the explicit content of issued patents" (*KSR Int'l v.*

comprising at least two quaternary ammonium groups” (Spec. 13: 8-13) required by instant claim 1.

5. Niemiec’s component c) “is a detergent. By ‘detergent,’ it is meant any known surfactant and/or soap that is compatible with the silicone agents and the cationic agents of the cleansing composition, and may . . . include anionic surfactants, nonionic surfactants, cationic surfactants, amphoteric surfactants . . . and mixtures thereof” (Niemiec, col. 6, ll. 43-50).

6. Niemiec includes long chain alkyl glucosides as examples of suitable nonionic surfactants (Niemiec, col. 7, ll. 9-11), but does not describe the “sugar chosen from C3 to C5 monosaccharides substituted with at least one C1 to C22 carbon chain” required by instant claim 1.

*Bertho*

7. Bertho describes “mixtures of alkyl pentosides [which] make remarkable non-ionic surface active agents” (Bertho, col. 6, ll. 14-15).

8. Bertho teaches that alkyl pentosides surfactants “may be added to hair care products” because of “their ability to lower the surface tension . . . of water and their foaming, emulsifying and detergent power” (Bertho, col. 6, ll. 21-35).

9. Bertho teaches that alkyl pentoside surfactants are economical to produce (Bertho, col. 1, l. 45 to col. 2, l. 32), and “fully biodegradable . . . whilst having a high level of stability” (*id.* at col. 7, 10-13).

10. Bertho teaches that alkyl pentosides can be used in shampoos which also include “the usual additives” (Bertho, col. 17, ll. 44-48), such as cationic conditioning agents like “cationic cellulose derivatives (POLYMER JR400® . . .)” (*id.* at col. 18, ll. 32-40).

*Teleflex Inc.*, 127 S. Ct. 1727, 1741, 82 USPQ2d 1385, 1396 (2007). The Court reiterated “the need for caution in granting a patent based on the combination of elements found in the prior art” (*id.* at 1739, 82 USPQ2d at 1395), particularly where there is “no change in their respective functions” (*id.*). In other words, “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results” (*id.*).

Here, there is evidence of record that cationic conditioning agents comprising at least two quaternary ammonium groups (including the polyquaternium-10 taught by Niemiec), and C3 to C5 monosaccharides substituted with at least one C1 to C22 carbon chain (like the economically advantageous non-ionic alkyl pentoside surfactants taught by Bertho), were both conventional, familiar components of cleansing and conditioning shampoos at the time of the invention (*see e.g.* FFs 1 and 3). In addition, there is evidence of record that it was conventional to combine cationic conditioning agents with non-ionic surfactants (*see e.g.*, FFs 2, 3, 5, and 10) in cleansing and conditioning shampoos, with the individual components retaining their respective functions. Moreover, while not mentioned by the Examiner, nor necessary for our decision, we nevertheless note that Bertho explicitly teaches that alkyl pentosides can be used in shampoos which also include “the usual additives” (Bertho, col. 17, ll. 44-48), such as cationic conditioning agents like “cationic cellulose derivatives (POLYMER JR400® . . .)” (*id.* at col. 18, ll. 32-40) (*see* FF 10).

Inasmuch as there is no evidence on this record that the claimed combination of conventional, familiar components of conditioning

shampoos does anything more than yield predictable results, we conclude that the Examiner has set forth a prima facie case that claim 1 would have been obvious over the cited prior art, which Appellants have not adequately rebutted by argument or evidence. As discussed above, claims 2-9, 13-19, 33-42, and 56-59 stand or fall with claim 1.

We therefore affirm the Examiner's rejection of claims 1-9, 13-19, 33-42, and 56-59 under 35 U.S.C. § 103(a) as unpatentable over Niemiec and Bertho.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv) (2006).

**AFFIRMED**

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